

VULCAN

INSTALLATION & OPERATION MANUAL

MEF24A MEDIUM DUTY ELECTRIC FRYER



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Installation, Operation and Care of MODEL MEF24A ELECTRIC FRYER

PLEASE KEEP THIS MANUAL FOR FUTURE USE

GENERAL

Vulcan fryers are produced with quality workmanship and material. Proper installation, usage and maintenance of your fryer will result in many years of satisfactory performance.

It is suggested that you thoroughly read this entire manual and carefully follow all of the instructions provided.

INSTALLATION

Before installing, verify that the electrical service agrees with the specifications on the rating plate located on the inside of the front panel. If the supply and equipment requirements do not agree, do not proceed with the installation. Contact your dealer or Vulcan-Hart Company immediately.

UNPACKING

This fryer was inspected before leaving the factory. The transportation company assumes full responsibility for safe delivery upon acceptance of the shipment. Immediately after unpacking, check for possible shipping damage. If the fryer is found to be damaged, save the packaging material and contact the carrier within 15 days of delivery.

Carefully unpack fryer and place in a work-accessible area as near to its final installed position as possible. Remove the packing bag containing the adjustable legs from inside the carton.

LOCATION

The installation location must allow adequate clearances for servicing and proper operation. A minimum front clearance of 36" is required.

INSTALLATION CODES AND STANDARDS

The fryer must be installed in accordance with state and local codes and with the National Electrical Code, ANSI/NFPA-70 (latest edition). Copies may be obtained from The National Fire Protection Association, Batterymarch Park, Quincy, MA 02269.

ASSEMBLY

Screw the legs into the permanently fastened nuts on four corners of the fryer bottom. Tighten the legs and set the fryer in place. **CAUTION: Do not slide fryer with legs mounted. If it is necessary to move the fryer, allow it to cool, then lift it.**

LEVELING THE FRYER

Place a spirit level on top of the fryer. Turn the adjustment screw at the bottom of each leg until the fryer is level front-to-back and side-to-side.

ELECTRICAL CONNECTIONS

WARNING: ELECTRICAL AND GROUNDING CONNECTIONS MUST COMPLY WITH THE APPLICABLE PORTIONS OF THE NATIONAL ELECTRICAL CODE AND/OR OTHER LOCAL ELECTRICAL CODES.

WARNING: DISCONNECT ELECTRICAL POWER SUPPLY AND PLACE A TAG AT THE DISCONNECT SWITCH TO INDICATE THAT YOU ARE WORKING ON THE CIRCUIT.

An electrical diagram is located on the rear panel.

All fryers are provided with two terminal blocks at the rear of the fryer for field wire connections. The large terminal block (marked X-Y-Z) is for power supply connections. The smaller auxiliary terminal block (marked 1-2-3) is for connection to a fire protection circuit.

Located on the rear leg channel are two knockouts (accessible by removing the rear panel), a $\frac{3}{4}$ " conduit for power supply, and a $\frac{1}{2}$ " conduit for auxiliary terminal block wires.

Remove the rear panel. Mount suitable $\frac{3}{4}$ " conduit fitting in power supply knockout. The knockout hole for $\frac{1}{2}$ " conduit fitting is covered with a closure plug. **CAUTION: Do not remove closure plug covering $\frac{1}{2}$ " size knockout opening if connections to a fire protection circuit are not required. Removal of the closure plug under this condition, may result in a shock hazard.**

If connection to the auxiliary terminal block is required, remove the $\frac{1}{2}$ " knockout hole for conduit fitting. Connect field wire to the **power** terminal block as indicated on the wiring diagram. Wire must be of the type suitable for 90°C service, and of thickness indicated on marking on rear panel.

Field wire connections to the **auxiliary** terminal block must be of the size indicated on the rear panel, and suitable for 90°C service. Connect lead wires to the auxiliary terminal block as indicated on the wiring diagram, depending upon whether the fire protection circuit has a Normally Open (N.O.) or a Normally Closed (N.C.) switch.

The auxiliary terminal block wiring must not be changed if connections to a fire protection system are not made. The fryer is factory assembled for operating without connections to a fire protection system.

ELECTRICAL DATA CHART

NOMINAL AMPS PER LINE WIRE								
3 PHASE							1 PHASE	
208V			240V			208V	240V	
MODEL	X	Y	Z	X	Y	Z	XYZ	XYZ
MEF24A	29	50	29	25	44	25	58	50

After making the connections, replace the rear panel.

OPERATION

WARNING: HOT OIL AND PARTS CAN CAUSE BURNS. USE CARE WHEN OPERATING, CLEANING AND SERVICING THE FRYER.

WARNING: SPILLING HOT OIL CAN CAUSE SEVERE BURNS. DO NOT MOVE FRYER WITHOUT DRAINING ALL OIL FROM THE TANK.

CONTROLS

- On-Off Switch (Red) — Turns power to the fryer on and off.
- Melt-On Switch (White) — (Optional) Used to melt solid shortening in the tank. Push to ON to operate the melt cycle; push to OFF once solid shortening is melted.
- Heat-On Light (Yellow) — Cycles on when heating elements are on, and off when heating elements are off.
- Thermostat — Maintains temperature of oil in tank.
- Element Lift Handle — Lifts heating elements to just above shortening level at the intermediate (drain) position, and to the high (cleaning) position so the fry tank can be removed.

BEFORE FIRST USE

Cleaning

Using a non-corrosive, grease-dissolving commercial cleaner, clean the protective metal oils from all surface parts and the fry tank interior. Follow the cleaner manufacturer's directions. To empty fry tank, grasp the black handle on the end post on the top rear corner of the fryer with the left hand, and the element lift handle (resting on the fry tank front) with the right hand. Lift the elements, while at the same time pulling the black handle, until the elements are in the highest position. Firmly grasp both handles of the fry tank and lift it out. Rinse thoroughly and drain. Be sure to remove all traces of cleaner; it can affect the food taste. Wipe fry tank completely dry with a soft clean cloth.

Clean all fryer accessories. Rinse all parts thoroughly and wipe dry.

Seasoning

Light seasoning of the backsplash area is required to avoid possible surface corrosion. With a soft, lint-free cloth, apply a thin layer of cooking oil over entire backsplash area. This should also be done after every cleaning.

Circuit Breaker

Check that the circuit breaker is in the ON position. Do this by pressing the RESET or ON part of the red rocker handle on the front panel. Set thermostat to OFF and push in the ON-OFF Switch to turn the fryer on. The red indicating light on the switch will come on. Turn the thermostat knob to 300°F. The HEAT-ON light will come on. Turn ON-OFF Switch to OFF.

ADDING FRYING COMPOUND

Fill fry tank to the FULL mark (approximately 30 pounds) with liquid or melted frying compound. Do not overfill. Do not use solid frying compound unless your fryer is equipped with the melt cycle option. Air holes caused when packing solid frying compound into the fryer can cause hot spots on the heating element sheath, resulting in momentary overheating of some of the frying compound and premature frying compound breakdown. It can also damage the heating elements.

If your fryer is equipped with the melt cycle option, the fry tank can be filled with solid frying compound. The melt cycle can also be used to melt frying compound which has solidified since its last usage.

Do not allow frying compound level to drop below the ADD mark. For proper operation of the fryer and good frying results, the frying level should be maintained between the FULL and the ADD marks.

USING THE FRYER

CAUTION: Before turning the fryer on, the fry tank must be filled with liquid frying compound. If this is not done, the tank walls can be damaged. Warpage can cause leaks.

Turn thermostat control knob to desired temperature.

Fryers Equipped with Melt Cycle Option: If you are using solid frying compound, push the MELT-ON Switch to ON (white light comes on). It takes approximately 18 minutes to melt 30 pounds of solid frying compound. After the solid frying compound has melted, push the MELT-ON Switch to OFF (white lights goes out). The fryer will then heat the frying compound to the temperature set on the thermostat. When the MELT-ON switch is turned ON, the cycling thermostat is non-functional. Setting a higher temperature on the thermostat knob will not speed up the melting operation. The normal heating of frying compound to frying temperatures will not function unless the MELT-ON Switch is turned OFF.

Fryers Without Melt Cycle Option: Push the red ON-OFF Switch to ON to put fryer into operation. The yellow HEAT-ON light will stay on until the temperature set on the thermostat is reached, then the light cycles off.

After a load has been fried, do not lower the next load into the frying compound until the HEAT-ON light cycles off.

Do not overload the baskets; approximately half full or even less is correct. If foods are taking longer to fry than the deep fat frying chart in this manual shows, or are not browning, overloading is a probable cause. (Refer to the troubleshooting guide in this manual.)

TURNING THE FRYER OFF

Temporary Shutdown: Turn thermostat to OFF position.

Seasonal Shutdown: Turn thermostat to OFF position. Turn On-Off switch to OFF position.

HIGH LIMIT DEVICE

A high limit device will shut the fryer down if the oil overheats. **DO NOT** turn fryer on again until oil temperature has lowered to at least 350°F. If the situation persists, contact your local Vulcan-Hart authorized servicer.

CLEANING

WARNING: DISCONNECT ELECTRICAL POWER SUPPLY BEFORE CLEANING.

CAUTION: Do not spray with hose or steam cleaner. Doing so will cause extensive damage (not covered under warranty).

Daily

Clean your fryer regularly. If regular cleaning is neglected, grease will be burned on and discolorations may form. These may be removed by washing with any detergent or soap and water. Particularly stubborn discolorations may be removed with a self-soaping scouring pad or a paste made of water and a mild scouring powder applied with a plastic open pad or sponge. Do not use standard steel wool on stainless steel finishes. Pieces of the steel wool will adhere to the stainless steel and cause rusting.

Clean all stainless steel surfaces with a damp cloth and polish with a soft dry cloth. A non-abrasive cleaner may be used to remove discolorations. Always rub in the direction of the polish lines on the stainless steel to preserve the original finish. To prevent water spots and streaks, rinse equipment thoroughly with warm water and wipe dry with a soft clean cloth. The addition of a rinsing agent will also help prevent spotting.

Keeping the fryer exterior clean and free of accumulated grease will prevent stubborn stains from forming. Wash all exterior surfaces at least once daily. Use a cloth with warm water and a mild soap or detergent. Follow with a clear rinse, then dry.

Weekly or as Required

The frequency of cleaning depends on the load conditions. Set a definite cleaning schedule corresponding to how much the fryer is used. Cleaning should be done at least once a week.

1. Turn the thermostat to OFF and allow tank to cool.
2. Remove the fry baskets.
3. Grasp the black handle on the end post on the top rear corner of the fryer with the left hand, and the element lift handle (resting on fry tank front) with right hand.
4. Lift the element handle while at the same time pulling the black handle. This will permit lifting the elements to just above frying compound level in the tank (drain position). The element can be left in this position for draining frying compound.
5. Wire brush or scrape elements to remove any solids adhering to the elements.

6. Again, lift the element handle while pulling the black handle until the elements lock themselves at the high (cleaning) position. Both the lifting out and lowering of elements can be done in one swing, without stopping at the intermediate (drain) position.
7. Remove the crumb tray.
8. Firmly grasp both handles of the fry tank and lift it out.
9. Strain the frying compound into a clean container.
10. Replace the empty fry tank and lower the elements to rest inside the tank.
11. Add water to the FULL mark on the tank.
12. Add any good grade of cleaner. Follow the cleaner manufacturer's instructions.
13. Turn the thermostat to 250°F and bring the solution to a boil. Boil long enough to loosen or dissolve all "varnish" or "carbon" deposits (approximately 30 minutes).
14. Turn fryer OFF. Lift the elements to the drain position.
15. If necessary, clean the thermostat bulbs, using a long handled fiber or plastic brush and mild soap solution.
16. Rinse with clean water to remove all cleaning mixture.
17. Lift out the fry tank and drain. Wash fry tank again with a mild soap solution. Rinse with clean water to remove all cleaning mixture. The fry tank must be thoroughly rinsed; even a trace of cleaner left inside the tank will ruin frying compound.
18. Rinse inside of tank with 2 cups of vinegar. Rinse with clean water until vinegar odor is gone.
19. Dry thoroughly. Replace the empty fry tank and lower the elements.
20. Cover tank until ready for further use.

Fingerprints

Fingerprints are sometimes a problem on highly polished surfaces of stainless steel. They can be minimized by applying a cleaner that will leave a thin, oily or waxy film. Wipe cleaner on and remove excess with a soft dry cloth. After using, subsequent fingerprints will usually disappear when wiped lightly with a soft cloth containing a little of the cleaner. If the surface is especially dirty to start with, wash first with soap or detergent and water.

Burned On Foods and Grease

Soaking with hot soapy water will help greatly to remove burned on foods and grease. Stubborn deposits can be removed with scouring powder mixed into a paste and applied with stainless steel wool or sponges.

Precautions

When scraping off heavy deposits of grease or oil from stainless steel equipment, never use ordinary steel scrapers or knives. Particles of ordinary steel may become embedded in, or lodge on, the surface of the stainless steel. These will rust, causing unsightly stains. Where it is necessary to scrape, use stainless steel, wood, plastic, or rubber tools, or stainless steel wool.

FRYING COMPOUND MAINTENANCE

Frying compound life may be extended by following these procedures:

- Do not salt foods over the fryer.
- Use good quality frying compound.
- Filter frying compound daily (at a minimum).
- Replace frying compound if it becomes poorly flavored.
- Keep equipment and surroundings clean.
- Skim food particles frequently with strainer skimmer (not supplied).
- Set thermostats correctly. Do not use excessively high temperatures.
- Remove excess moisture and particles from food products before placing in fryer.
- Dip out several cups of frying compound from the fry tank every day and add fresh frying compound to replace it.

SUGGESTED TIME AND TEMPERATURE CHART FOR DEEP FAT FRYING

Food	Temp. °F	Time (minutes)
DOUGHNUTS		
Cake type	375	1½ to 2
Yeast raised	375	2 to 2½
MEAT		
Cutlets (less than ½" thick)	350	5 to 8
Chicken fried steak	350	5 to 8
Chops (very lean)	350	5 to 8
MISCELLANEOUS		
Chinese noodles	375	1 to 2
Croquettes	350	2 to 3
French toast	350	2 to 3
Glazed cinnamon apples	300	5 to 10
French fried sandwiches	350	1 to 2
POULTRY		
Chicken (large pieces)	325	10 to 15
Chicken (small pieces)	350	7 to 10
Chicken (pre-cooked)	325 - 350	3 to 5
Turkey (small pieces)	325	9 to 10
SEAFOOD		
Fish cakes	350	2 to 3
Clams	350	1 to 3
Filletts (small)	350	3 to 5
Oysters	350	2 to 5
Scallops	350	3 to 5
Shrimp	350	4 to 6
Smelts	350	4 to 6
VEGETABLES		
Eggplant	350	5 to 7
Onion rings	350	3 to 5
Potatoes (½" strips, one-operation)	350	6 to 9
Potatoes (blanch)	350	4 to 6
Potatoes (brown)	350	2 to 3
Potatoes (Julienne)	350	3 to 5

MAINTENANCE

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WARNING: SPILLING HOT OIL CAN CAUSE SEVERE BURNS. DO NOT MOVE FRYER WITHOUT DRAINING ALL OIL FROM THE TANK.

WARNING: DISCONNECT ELECTRICAL POWER SUPPLY BEFORE PERFORMING ANY MAINTENANCE.

SERVICE AND PARTS INFORMATION

To obtain service and parts information concerning this fryer, contact the Vulcan-Hart Service Agency in your area (refer to listing supplied with the fryer), or Vulcan-Hart Company Service Department at the address or phone number shown on the front cover of this manual.

DEEP FRYING TROUBLESHOOTING GUIDE

PROBLEM \ POSSIBLE CAUSE	Frying temperature too high/overheating (check thermostat)	Frying temperature too low (check thermostat)	Overloading the fry tank	Improper draining of food after frying	High moisture content in food being fried	Inadequate frying compound turnover	Improper preparation of food	Contamination of frying compound (due to salt or other foreign material)	Frying in foam	Food being fried may be of poor quality	Dripback from exhaust stack	Poor quality of frying compound - either initial or after excessive use	Cooking time too short	Inadequate filtering of frying compound/excessive crumbs in fry tank	Keeping food in frying compound after cooking	Inadequate cleaning of fry tank
Excessive and pre-mature foaming	X		X			X		X				X		X		X
Greasy food/ excessive frying compound absorption		X	X	X	X	X	X		X			X			X	
"Objectionable" odor or flavor of frying compound					X	X		X		X	X	X		X	X	X
"Objectionable" flavor of fried food				X		X	X			X	X	X	X	X	X	
Excessive smoking of frying compound	X					X	X	X				X		X		X
Excessive darkening of frying compound	X					X	X	X				X		X		X
Frying compound won't heat		X	X		X		X		X							
Food crust color not brown		X	X		X		X		X							
Rapid breakdown of frying compound	X				X		X	X			X	X		X		X

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